DRAFT

SAFE HARBOR AGREEMENT

FOR GILA TOPMINNOW (*Poeciliopsis occidentalis occidentalis*) AND DESERT PUPFISH (*Cyprinodon macularius*) ON LANDS OWNED BY THE NATURE CONSERVANCY (TNC) acting through its Arizona Chapter, WITHIN THE ARAVAIPA CREEK WATERSHED

Prepared by:

The Nature Conservancy, Arizona Chapter

And

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U.S. Fish and Wildlife Service

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TABLE OF CONTENTS

Draft Safe Harbor Agreement for the Gila topminnow and desert pupfish at Aravaipa Canyon Preserve

1.0 BACKGROUND

Once common throughout most of the Gila River Basin, Gila topminnow (*Poeciliopsis occidentalis occidentalis*) and desert pupfish (*Cyprinodon macularius*) now occur naturally in a fraction of their historical range (Minckley 1973). Both species are currently listed as endangered throughout their respective ranges in the United States of America (USFWS 1993). Habitat loss, alteration, and introduction of non-native fishes have contributed significantly to declines in natural populations of these two species (Minckley 1973; Bagley et al. 1991; USFWS 1998).

Gila topminnow belong to a group of live-bearing fishes within the family Poeciliidae. Males are smaller than females, rarely greater than 1 inch, while females are larger, reaching 2 inches. Body coloration is tan to olivaceous, darker above, lighter below, often white on the belly. Breeding males are usually darkly blackened, with some golden coloration of the midline, and with orange or yellow at the base of the dorsal fin. Fertilization is internal, and sperm packets are stored, which may fertilize subsequent broods. Brood development time is 24 to 28 days. Two to 3 broods in different stages develop simultaneously in a process known as superfetation. Gila topminnow give birth to 1-31 young per brood (Schoenherr 1974). Larger females produce more offspring (Minckley 1973).

Gila topminnow mature in a few weeks to many months after birth depending on when they are born and water temperature. They breed primarily from March to August, but some pregnant females occur throughout the year (Schoenherr 1974) and some young are produced in the winter months. Minckley (1973) and Constantz (1980) reported that Gila topminnow eat bottom debris, vegetation, amphipods, and insect larvae when available.

Gila topminnow can tolerate a wide variety of physical and chemical conditions (Meffe et. al. 1983, Meffe and Snelson 1989, Minckley et. al. 1977). They are good colonizers in part because of this tolerance and in part because a single gravid female can start a population (Meffe and Snelson 1989). Minckley (1969, 1973) described their habitat as the edges of shallow aquatic habitats, especially where abundant aquatic vegetation exists.

There are 3 subspecies of desert pupfish, 2 of which have been described; *C. macularius* occurs in the Colorado River Drainage and *C. macularius eremus* occurs in the Rio Sonoyta drainage (Quitobaquito Spring). These fish can live 1-2 years and are typically 1.5 inches in length. They are opportunistic in their food habits, eating small crustaceans, insects, worms, mollusks, and other invertebrates, aquatic macrophytes, algae, and detritus. Pupfish may reach sexual maturity in as little as six weeks. Reproduction occurs when water temperatures exceed 20 degrees

Celsius. Males are territorial and may spawn with several females. Care for eggs and young occurs inadvertently as a consequence of the male's relentless habit of driving other male pupfish and other fish species from its territory during breeding.

This pupfish occupies shallow water of desert springs, creeks, small streams, cienegas, and the margins of large bodies of waters such as ponds, lakes, and rivers. Natural habitats were typically shallow and clear with soft bottoms. Aquatic vegetation and small invertebrates were abundant in such habitats. Desert pupfish can tolerate abrupt changes in temperature and salinity that most other desert fishes cannot. They hold the record for surviving in the highest water temperature (112 degrees F) and lowest oxygen level. They can inhabit water with salinities nearly 3 times that of seawater. They can bury themselves in the muddy bottom to avoid adverse conditions or escape predators. Pupfish eggs can survive dry weather by resting in the moist mud of a drying habitat for days, hatching when surface water returns. In locations with harsh water quality conditions, few other fishes share their habitat. Under milder conditions, pupfish were likely separated from the adult fish of most other species due to its preference for shallow microhabitats.

Recovery plans for both Gila topminnow and desert pupfish list reestablishment of these fish into suitable habitats within their historical ranges as recovery objectives or tasks (USFWS 1993, USFWS 1998). The location of natural and reestablished populations of Gila topminnow and desert pupfish, along with detailed life history information is in Weedman and Young (1997).

The U.S. Fish & Wildlife Service's (FWS) Safe Harbor Policy, finalized in June 1999 (64 FR 32706) and revised in May 2004 (69 FR 24084), encourages voluntary management for listed species to promote recovery on non-Federal lands by giving assurances to landowners that no additional future regulatory restrictions will be imposed for species covered under such an agreement. In other words, a landowner provides a net conservation benefit that is not required under the Endangered Species Act (Act) or by regulation for an endangered species and no new restrictions beyond those agreed to in the Safe Harbor Agreement will be imposed on the habitats thus created or improved.

Safe Harbor Agreements are voluntary arrangements between the FWS and cooperating non-Federal landowners. Following development of an approved agreement, the FWS will issue an "enhancement of survival" permit, to authorize future incidental take to provide participating landowners with assurances that no additional restrictions will be imposed as a result of their conservation actions.

This Safe Harbor Agreement (Agreement) is a voluntary agreement between The Nature Conservancy (TNC) and the FWS, and each party has the commitment and means to implement it.

2.0 PURPOSE

The purpose of this Agreement is to establish additional populations of Gila topminnow and desert pupfish to aid in recovery of these species. These populations would be established on lands owned by TNC, acting through its Arizona Chapter within the Aravaipa Creek watershed. This Agreement will provide regulatory assurances to TNC, so that the establishment of these populations on property owned by TNC would not result in undue or additional regulatory requirements outside those outlined in this Agreement.

When signed, this Agreement will serve as the basis for the FWS to issue a section 10(a)(1)(A) enhancement of survival permit. This permit will authorize incidental take of listed species covered by the Agreement resulting from TNC's ongoing land management activities and the potential return of covered sites to baseline conditions in accordance with existing regulations. The permit will authorize the Permittee (TNC) to incidentally take Gila topminnow and desert pupfish individuals above the established baseline on enrolled sites. Take would be incidental to ongoing land management activities described in section 7.0. Take may include all individuals of the species, and their progeny, that are introduced to the enrolled lands or have increased in numbers and/or distribution on those lands covered under this Agreement, as a result of the Permittee's voluntary conservation actions.

2.1 NEED FOR ACTION

Recovery of topminnow and pupfish is limited by availability of suitable habitat. Permanent water sources, free of predaceous fishes, and within the species' historical ranges, are necessary for successful establishment of topminnow and pupfish. Task 2 in the current Desert Pupfish Recovery Plan states that "...efforts should be made to re-establish pupfish into a diversity of habitat types reflective of those occupied historically..." (USFWS 1993). Task 2.2 of the current draft revised Gila Topminnow Recovery Plan lists reintroduction of topminnows into suitable habitats as a criterion for recovery of topminnow (USFWS 1998). However, populations established under this safe harbor agreement would not be protected in perpetuity, and the value of these populations towards recovery is somewhat reduced.

3.0 GEOGRAPHIC SCOPE OF AGREEMENT

The enrolled sites covered by this Agreement are lands owned by TNC within the Aravaipa Creek watershed, described in Appendix A, attached hereto and incorporated herein by reference (TNC lands). The Arizona Game and Fish Department (AGFD), Bureau of Land Management (BLM), the FWS, and TNC have identified several locations suitable for stocking Gila topminnow and/or desert pupfish on TNC lands.

Other perennial water found within the project area will also be considered on a case-by-case basis. The FWS, in cooperation with TNC and AGFD, will verify habitat suitability and determine suitability for stocking of topminnows and pupfish. If additional, suitable habitat for

these species are acquired the Agreement maybe amended if TNC requests their inclusion into the Agreement.

4.0 SPECIES AND HABITATS TO BE COVERED BY THE AGREEMENT

4.1 SPECIES COVERED BY THIS AGREEMENT

Species covered under this agreement are Gila topminnow and desert pupfish (*C. macularius*).

4.2 HABITAT COVERED BY THIS AGREEMENT

This Agreement refers mainly to the aquatic habitat on the TNC lands referenced in Appendix A, however, it also encompasses activities involving the entirety of the parcels. Both Gila topminnow and desert pupfish have historically occupied a variety of habitats. In general, habitat consisted of relatively shallow water (<3.3-ft (1 m) in depth) along stream or river margins, ponds, cienegas, and springs (Minckley 1973, 1999; USFWS 1993, USFWS 1998). Both species are associated with aquatic or streamside vegetation, algal mats, organic debris, and, both are adapted to environmental extremes (i.e., water salinity, water temperature, flooding, etc.) (USFWS 1998, Minckley 1999).

5.0 NET CONSERVATION BENEFIT

In nature, populations of Gila topminnow and desert pupfish expanded in size and geographical range during wetter periods. These populations subsequently contracted and often disappeared during times of drought (USFWS 1998, Minckley 1999). Due to high reproductive potential and an adaptation to environmental extremes, numbers of individuals of both species will likely fluctuate over time after being stocked into sites covered under this Agreement. The establishment of new populations, pursuant to this Agreement, of both species will provide a net conservation benefit and maintain or exceed the baseline condition.

The items listed below are specific “tasks” in the recovery plans intended to lead to recovery and eventual downlisting of Gila topminnow and desert pupfish (USFWS 1993, USFWS 1998). Level 1 populations are natural populations occupying historical habitat “and which were not known to have been placed in those habitats by humans” (USFWS 1993). Level 2 and Level 3 populations have been re-established by humans into habitat within historical range. Level 2 populations occur in natural habitats and should receive a high degree of protection and only require minor management to persist. Level 2 populations are not considered “established” until they have persisted for a period of ten years. Level 3 populations occur in highly modified or man-made habitats, and may require extensive management to maintain them (USFWS 1993, USFWS 1998). How the reestablished populations under this agreement will be considered in the recovery of these species will be consistent with the recovery plans for these two species.

A net conservation benefit is anticipated through the increase in total numbers of newly established populations of Gila topminnows and/or desert pupfish during the term of this Agreement.

6.0 BASELINE CONDITIONS

TNC, AGFD, and BLM, sampled the lands covered under this Agreement on January 17, 2002, and did not collect any Gila topminnow or desert pupfish (USWFS files). Furthermore, these sites were unoccupied by any fish at the time of sampling. The absence of Gila topminnow and desert pupfish was expected. The draft revised Gila Topminnow Recovery Plan states that there are no existing populations of Gila topminnow in the San Pedro River basin (USFWS 1998), and desert pupfish were last recorded from the San Pedro River in 1950 (USFWS 1993). In addition, surveys conducted during the 1999-2000 Aravaipa Creek Fish Monitoring Project resulted in seven native fish species being sampled, but no Gila topminnow or desert pupfish were found (AGFD 2002). Therefore, the baseline conditions for Gila topminnow and desert pupfish within the covered area of this Agreement is zero.

7.0 INCIDENTAL TAKE

Safe Harbor Agreements are written in anticipation of "take" of the covered species at some point in the future. Take cannot occur below the established baseline for a covered site. Take is expected to occur as a result of conservation activities, otherwise legal activities, and the potential return to baseline at the termination of the Agreement and its associated section 10(a)(1)(A) permit. Measures will be implemented to prevent or reduce levels of "take"; however, incidental take of both Gila topminnow and desert pupfish could result under a variety of circumstances.

7.1 METHODS OF TAKE:

The following is a list of activities that could result in incidental take:

1. Prescribed burns conducted on TNC lands or adjacent properties may cause short-term impacts such as increased sedimentation or nutrient flows, and loss of pool habitat. Long-term effects are expected to be positive, resulting in improved watershed quality, increased infiltration, and higher base flows within covered habitats.

2. Grazing on adjacent lands within the watershed could result in take on TNC lands (examples include increased siltation of a stream due to overgrazing and erosion, cattle gaining access to habitats occupied by Gila topminnow and/or desert pupfish through damaged fences, etc.).

3. Contamination of water due to run-off from an old two-track road could result in take; however, this road will remain closed to the public, and conditions should

continue to improve. It is anticipated that contaminant run-off will be reduced over time, as the road is no longer used.

4. Light recreational activities including hiking, camping, horseback riding, and hunting, could result in take caused by trampling of habitat, or minor pollution of stream segments from soaps, detergents, trash, etc.

5. Monitoring of Gila topminnow and desert pupfish populations as agreed upon in this Agreement may result in individuals being inadvertently, harmed, harassed, or killed.

6. Management actions to remove non-native aquatic species may cause harassment and possibly a small amount of mortality.

7. Reestablishment of vegetation within these sites or associated terrestrial sites may result in harassment and possibly a small amount of mortality.

Nothing in this Agreement prevents the Permit holder from implementing management activities not described in the Agreement, as long as such actions maintain the original baseline conditions and the effects of such take are not significantly different from those discussed above. Management actions such as grazing on adjacent lands owned or managed by TNC will be scheduled in advance. Notification at least 60 days before activities that could result in take will be provided to the FWS. This will allow the FWS, in consultation with AGFD, the opportunity to relocate fish temporarily if necessary. If activities are going to require long-term removal of fish, arrangements can be made to house them at alternative locations or release them elsewhere.

Take of pupfish and topminnow may also occur related to the capture, transport, release, and additional monitoring. The effects of this source of take will be analyzed separately under the issuance of section 10(a)(1)(A) research and recovery permits to qualified individuals and agencies conducting such work.

In addition to the activities listed above, factors beyond TNC's control could result in topminnow and/or pupfish mortality. Examples of such factors include, but are not limited to, invasion by non-native species such as non-native fishes, bullfrogs (*Rana catesbeiana*), or other species, predation by native wildlife, wildfire, drought, and flooding. These sources of mortality are addressed below under Changed Circumstances, section 12.1.

7.2 MINIMIZATION OF TAKE

The following measures will be taken to avoid excessive take of the covered species from the activities listed above. These minimization measures are:

1. Prescribed fire will only be used to restore upland habitat, and burning in the riparian areas will be avoided.

2. TNC and other participants will periodically monitor for intrusions of cattle into the riparian areas and covered sites. Fence repairs and erosion control projects will be

initiated as needed and as funding becomes available.

3. Continued monitoring of the closed road will occur and projects to reduce erosion will be initiated as needed and as funding becomes available.

4. Recreational use within and adjacent to covered areas will be monitored for excessive impacts. If impacts become excessive in an area, discussion of potential minimization measures between TNC, FWS, and other interested parties such as AGFD and BLM will occur.

5. Individuals sampling fish populations as part of population monitoring will be qualified biologists and hold all necessary state and federal permits.

6. All staff, students, and volunteers working in or around these habitats will be instructed on proper safeguards prior to initiating work in or around these habitats.

7.3 EXTENT OF TAKE

The first two actions listed in section 7.1 above, could result in partial to complete (100%) take of both Gila topminnow and desert pupfish from sites covered in this Agreement. The next four management actions (Items 3-6 in section 7.1) are not expected to result in substantial take of either species. Isolated individuals could be subject to take during these routine activities, but care will be taken to reduce the possibility and frequency of take during these activities.

7.4 IMPACTS OF TAKE

The source of Gila topminnow and/or desert pupfish stocked onto properties under this Agreement will be either from captive refugia populations or from wild sites where the populations are large enough to remain viable after the removal of some fish. Due to the reproductive potential of these species, it is unlikely that removal of individuals from existing populations will have a long-term negative impact on the species. Removal of fish from wild populations will be done under a separate research and recovery section 10(a)(1)(A) permit held by AGFD or other designated entity. The impact of such removals will be evaluated under the issuance of that permit.

7.5 MONITORING

Monitoring under this agreement will consist of both biological monitoring and compliance monitoring.

Biological monitoring will occur annually on any TNC lands covered under this Agreement in which Gila topminnow and/or desert pupfish have been stocked. Qualified biologists from TNC or a representative agent of the FWS, such as AGFD, will conduct the monitoring.

Sampling of habitats will be conducted using standard protocols (i.e., dip nets and seines), and standard field sampling techniques. Extirpated populations will be restocked if necessary, only

after conferring with the FWS and AGFD. All costs for initial and subsequent stockings will be incurred by the FWS or the AGFD.

Information to be collected during site visits will include the following:

1. Type of site (stream, spring, pond, etc.);
2. General description of the site and its condition, including water quality (water temperature, pH, conductivity, and dissolved oxygen);
3. Presence or absence of Gila topminnows and/or desert pupfish and at least approximate numbers of adults and juveniles;
4. Presence or absence of non-native aquatic species;
5. Color photos (35mm slides or digital photos) of the habitat taken at fixed points; and
6. Any impacts from land management activities.

Compliance monitoring will occur at the same time as the biological monitoring, and during or after any actions where take of species covered under this Agreement is anticipated.

Information to be collected during compliance monitoring will include the following:

1. Any impacts from land management activities;
2. Effectiveness of minimization measures; and
3. The amount and extent of take related to land management activities.

If impacts from land management activities are observed that are far greater than anticipated, TNC will contact the FWS within 10 business days to review the impacts and reevaluate the minimization measures associated with such activities. Any modification to the Agreement will be consistent with the amendment procedures discussed later in this document. All monitoring information collected shall be summarized in a report due to the FWS on February 15 every year the Agreement is in effect.

8.0 NOTIFICATION REQUIREMENT

TNC will notify the FWS 60 days in advance of land management actions on TNC lands, such as prescribed fire or grazing, that could result in substantial mortality of covered species to provide the FWS or another appropriate party (such as AGFD), access and the opportunity to collect and relocate individuals, if the FWS so chooses.

9.0 RESPONSIBLE PARTIES

The Arizona Chapter of TNC will be responsible for providing project site(s), and reporting on the status of topminnow and pupfish populations to the FWS, notifying the FWS prior to initiating actions which may result in take, allowing access for monitoring and salvage of fish prior to any action that could result in take, and any and all conditions of the Section 10(a)(1)(A) enhancement of survival permit.

The FWS will be responsible for providing advice and scientific expertise during the project; reviewing and providing appropriate permits with assurances; assisting with population monitoring, reintroductions, and renovation as needed (and as personnel and funding is available); cooperating on conservation efforts with TNC and other appropriate parties (such as AGFD); and providing Gila topminnow and desert pupfish (or arranging for appropriate genetic stock) to be stocked on TNC lands via another agent, such as AGFD.

10.0 RESPECTIVE RESPONSIBILITIES OF THE PARTIES

The above notwithstanding, the parties to this Agreement understand that neither TNC, nor the FWS, under this Agreement can be compelled to provide financial assistance of any kind, except to the extent that such assistance is explicitly required under the Agreement or any other legal instrument entered into by any such party or cooperator to the Agreement. In addition to the specific tasks and contributions to this effort as identified in the above section titled "Responsible Parties," the parties further agree as follows:

10.1 FWS

1. The FWS does not assume jurisdiction over TNC lands by this Agreement. The FWS assumes no liability for damage except that resulting from its own negligence on TNC lands.

2. The FWS will not be held liable in any way to restore the property to its prior condition upon termination or expiration of this Agreement.

3. The FWS agrees to provide technical advice and assistance in obtaining permits that may be required for TNC to fulfill the terms of this Agreement. A state permit will be required.

4. The FWS agrees to ensure that all fish introduced to TNC lands have undergone a fish health assessment, to check for the presence pathogens, as part of standard handling procedures associated with translocation of aquatic species.

5. The FWS will assist in salvaging covered fish species from enrolled aquatic sites (as personnel and funding is available), prior to activities that could result in take and/or if TNC elects to return the site to baseline conditions.

6. The FWS will assist in conducting biological and compliance monitoring in accordance with section 7.5 of this Agreement.

7. The FWS will assist in securing funding for Gila topminnow and desert pupfish conservation activities when appropriate (e.g., under the Partners for Fish and Wildlife program).

10.2 TNC

1. TNC retains all rights to control trespass and access, and retains all responsibility for taxes, assessments, and damage claims.

2. TNC is the owner of the lands described in Appendix A and covered by this Agreement. A change of ownership shall not change the terms of this Agreement, which shall remain in effect on the described property for the duration of the period specified in section 11.0. TNC agrees to notify the FWS of planned or pending changes of ownership at least 60 days in advance.

3. TNC agrees to allow the FWS (its members, agents, or assignees) access to the project site, upon prior, reasonable, notification by the FWS, for monitoring purposes, and to inspect work completed.

4. TNC agrees to hold the Agreement's associated Section 10(a)(1)(A) enhancement of survival permit and abide by all terms and conditions of the permit upon its final issuance by the FWS and acceptance by TNC.

5. TNC will assist in salvaging covered fish species from enrolled aquatic sites, prior to activities that could result in take or returning the site to baseline conditions.

6. TNC will assist in conducting biological and compliance monitoring in accordance with section 7.5 of this Agreement.

7. TNC will prepare an annual report that documents all activities associated with the Agreement in the previous year, including translocation and reintroduction of fish, land management activities that may have resulted in take, an estimate of the amount of take that may have occurred, and any further measures that may be taken to reduce the likelihood of take in the future. Any proposed amendments or approved amendments that occur during the year should also be documented. The annual report should cover a calendar year, and is due annually on February 15.

11.0 DURATION OF AGREEMENT

This Agreement will commence effective the date signed by the last signatory to this Agreement, and will continue for a term of 20 years. A minimum of 18 years of conservation is anticipated under this Agreement. It is anticipated that if a voluntary return to baseline occurs, it will be within the last two years of this Agreement and its associated section 10(a)(1)(A) permit. However, prior to the date of expiration of this Agreement and any voluntary return to baseline, this Agreement may be renewed upon written agreement by both parties. This does not preclude either party from early termination of the Agreement as described in section 13.0.

12.0 ALTERED AND UNFORESEEN CIRCUMSTANCES, ADAPTIVE MANAGEMENT, AND AMENDMENT PROCEDURES

12.1 Altered Circumstances

Altered circumstances are changes in circumstances affecting the species or geographic area covered by the Agreement that can reasonably be anticipated, and planned for, during the development of this agreement. These include the following:

1. Exotic aquatic species: The possibility of invasion by non-native aquatic species that may prey on the covered species or detrimentally alter the habitat is foreseeable. This includes species such as bullfrogs, sunfish, *Gambusia*, and crayfish. In this instance, the FWS and TNC in cooperation with AGFD will work to renovate such sites and reestablish the populations of topminnow and pupfish.

2. Early loss of established populations: It is foreseeable that established populations may be lost due to several factors, including but not limited to high flows, extensive erosion and siltation, and ash flows. The cause of extirpation needs to be identified and sources located. If adaptations to the management practices associated with grazing, controlled burning, or other management activities can be identified that would reduce the likelihood of a future extirpation, then these practices should be adopted. Then if the habitat is still suitable for the covered species, reestablishment of these species may proceed. If the habitat is no longer suitable, the site will be removed from management under the Agreement, with the concurrence of the FWS and TNC.

3. Excessive mortality from native species: Several species native to the San Pedro River Basin could prey on the covered species. These could include several species of fish, reptiles, birds, and mammals. If predation by native species prohibits the populations of the covered species from becoming established, the FWS, TNC, and AGFD will confer on the possibilities of habitat modifications to increase habitat complexity. The goal of increasing the habitat complexity in covered sites is to provide increased refugia within covered sites.

12.2 UNFORESEEN CIRCUMSTANCES

Unforeseen circumstances are changes in circumstances affecting the species or geographic area covered by the Agreement that cannot be reasonably anticipated and planned for during the development of this Agreement, and that result in a substantial and adverse change in the status of the covered species. It is understood that unforeseen circumstances will not require TNC to provide additional habitats above that designated in this Agreement, without consent of TNC.

12.3 ADAPTIVE MANAGEMENT AND AMENDMENT PROCEDURE

TNC agrees to meet annually, or more frequently if necessary, and as agreed upon, with the FWS, to review progress in implementing the Agreement and to review needs for project

modifications due to changing circumstances. Any major change in land use or natural changes in the watershed that affect the covered species or their habitats will be reported by TNC to the designated FWS representative, or by the FWS representative or other cooperators (such as AGFD) to TNC, as soon as possible.

Two types of Adaptive Management modifications within the covered area may be implemented under this Agreement. These are termed: 1. major revisions to the Agreement, and 2. ongoing management adjustments (minor revisions). The FWS must be conferred with on all proposed amendments.

1. A major revision is defined as one triggered by the availability of substantial new scientific information, typically from a source not related to the Agreement, concerning any biological assumption or criterion upon which the conservation program is based and that would require modification of any of the Agreement's specific biological criteria or conservation measures. Major revisions would likely require that the Agreement be amended to reflect any required new standards or management activities. This, in turn, would require mutual agreement between TNC and the FWS and a formal written amendment.

2. Ongoing management adjustments (minor revisions) are defined based on the Agreement's monitoring program and concern any situation within the covered area that requires a management response, and that is within the scope of the existing Agreement. Examples of circumstances requiring ongoing management adjustments would be the identification of specific problems at specific Gila topminnow and desert pupfish sites within the covered area (e.g., colonization by non-natives, drought, or extirpation of a population). The FWS and TNC will address ongoing management adjustments collaboratively in the following manner:

    a. The cause of the circumstance will be determined, if possible.

    b. An appropriate response will be determined. If a discernible problem can be identified, the decision whether or not to re-establish the Gila topminnow and/or desert pupfish population will be made based on the following factors:

        i. The technical and logistical feasibility of correcting the problem, and the likelihood of long term success;

        ii. The biological importance of the population to the net conservation benefit of the species (section 5.0); and

        iii. Funding availability to undertake corrective action and re-establish a new population.

Minor revisions may also involve routine administrative changes to the operation and management of the program that do not diminish the level or means of net conservation benefits from corrective actions in response to unforeseen circumstances. Such minor revisions do not

alter the terms of the Section 10(a)(1)(A) permit. On written request by TNC, the FWS is authorized to approve minor amendments to this Agreement, as long as amendments do not conflict with the primary purpose of this Agreement.

Nothing in the Safe Harbor assurances policy shall be construed to limit or constrain the FWS or any other governmental entity from taking additional actions at its own expense to protect or conserve a species included in an Agreement, subject to landowner approval. The Safe Harbor assurance policy does not apply if the Agreement is not fully implemented, or to species not covered under this Agreement, if new species are listed or found to occur within the Agreement area.

13.0 AGREEMENT TERMINATION PROVISIONS

Either party may terminate this Agreement upon 60 days advance written notice to the other party. A schedule for the return of all sites back to baseline needs to be agreed upon, but shall not be longer than 60 days after the delivery of written notice of intent to terminate by one of the parties, unless both parties agree on an alternative deadline. At that time, the Agreement, the associated Section 10(a)(1)(A) enhancement of survival permit, and the assurances under the agreement will be terminated.

Should the FWS determine, due to changed circumstances, that the status of the species has declined to the point where continuation of the permitted activity should jeopardize the continued existence of the Gila topminnow or the desert pupfish, the FWS and TNC shall meet to determine a mutually acceptable modification to this Agreement. In the event that the parties cannot reach agreement, either the FWS or TNC may terminate this Agreement. Should either party terminate this Agreement, TNC lands shall be returned to the baseline conditions documented in section 6.0 of this Agreement by the FWS. Only after baseline conditions have been confirmed may the FWS revoke TNC's Section 10(a)(1)(A) permit and this Agreement.

14.0 PERMIT REVOCATION PROVISIONS

The FWS may revoke the permit if continuation of the permitted activity would either appreciably reduce the likelihood of survival and recovery in the wild of any listed species or directly result in the adverse modification of designated critical habitat. Prior to revoking a permit for either of these two reasons, the FWS will pursue all appropriate options to avoid permit revocation. These options may include, but are not limited to extending or modifying the existing permit, capturing and relocating the species, compensating the landowner to forgo the activity, purchasing an easement or fee simple interest in the property, or arranging for a third-party acquisition of an interest in the property.

15.0 AGREEMENT AND PERMIT TRANSFERABILITY

If in the event, any or all the covered aquatic sites are sold by TNC this Agreement and the associated permit may be transferred with the covered properties to any new non-Federal landowner. At this point, TNC's responsibilities as defined by the Agreement and the permit would cease. TNC shall give at least 60 days notice prior to the transfer of the property to the new owner, so the FWS can discuss the potential transfer of the Agreement and permit to the potential new owner. The potential new owner will need to agree in writing to become a party to the original Agreement and permit or enter into a new Agreement and be permitted to benefit from the Agreement's assurances.

If TNC would like to transfer the permit to a new permitee without the transfer of lands to a new owner, TNC and the proposed new permitee should jointly submit a written request to transfer the permit. This should be done at least 60 days prior to a proposed transfer date.

16.0 ADMINISTRATIVE MATTERS

1. For matters applicable to this Agreement, the FWS Point of Contact (POC) is the Field Supervisor of the Arizona Ecological Service Office, or designate.

2. Pursuant to Section 22, Title 41, United States Code, it is further mutually agreed that no member of or delegate to Congress or resident commissioner, after their election or appointment, and either before or after they have qualified and during their continuance in office, shall be admitted to any share or part of this Agreement, or to any benefit to arise thereupon; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

3. This Agreement may be amended or modified at any time by mutual written consent of all the parties. No change to this Agreement shall be binding upon the FWS or TNC unless and until such amendments or modifications are agreed upon in writing and signed by both parties.

4. No Third Party Benefit – Nothing contained herein, express or implied, is intended nor shall be construed to confer or to give any individual or entity, other than the parties hereto, any rights or remedies by reason of this Agreement.

5. Availability of funds – Implementation of this Agreement is subject to the requirements of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this Agreement will be construed by the Parties to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury. The Parties acknowledge that the FWS will not be required under this Agreement to expend any Federal agency's appropriated funds unless and until an authorized agency official affirmatively acts to commit to such expenditures as evidenced in writing.

6. Applicable Laws – All activities undertaken pursuant to this Agreement and its

associated 10(a)(1)(A) permit must be in compliance with all applicable state, federal, tribal, and local laws and regulations.

7. Relationship to the Act and other authorities – The terms and conditions of this Agreement shall be governed by and construed in accordance with the Act and applicable federal law. In particular, nothing in this Agreement is intended to limit the authority of the FWS to seek penalties or otherwise fulfill its responsibilities under the Act. Moreover, nothing in this Agreement is intended to limit or diminish the legal obligations and responsibilities of the FWS as an agency of the federal government.

8. No monetary damages – No party shall be liable in damages to any other party or other person for any breach of this Agreement, any performance or failure to perform a mandatory or discretionary obligation imposed by this Agreement or any other cause of action arising from this Agreement.

17.0 SIGNATORIES

IN WITNESS WHEREOF, THE PARTIES HERETO have executed this Safe Harbor Agreement to be in effect as of the date last signed below.

BY _____ Date _____

Patrick Graham, State Director
The Nature Conservancy of Arizona
Tucson, Arizona

BY _____ Date _____

Geoffrey L. Haskett, Deputy Regional Director
Region 2, United States Fish and Wildlife Service
Albuquerque, New Mexico

LITERATURE CITED

Bagley, B.E., D.A. Hendrickson, F.J. Abarca, and S. Hart. 1991. Status of the Sonoran topminnow (*Poeciliopsis occidentalis*) and desert pupfish (*Cyprinodon macularius*) in Arizona. Arizona Game and Fish Department, Phoenix, AZ. Special Report on Project E5-2, Job 9, Title VI of the Endangered Species Act.

Minckley, W.L. 1973. Fishes of Arizona. Arizona Game and Fish Department, Phoenix, Arizona.

Minckley, W.L. 1999. Ecological review and management recommendations for recovery of the endangered Gila topminnow. Great Basin Naturalist 59(3):230-244.

U.S. Fish and Wildlife Service (USFWS). 1993. Desert Pupfish Recovery. U.S. Fish and Wildlife Service, Albuquerque, New Mexico.

U.S. Fish and Wildlife Service (USFWS). 1998. Draft Gila topminnow, *Poeciliopsis occidentalis occidentalis*, revised recovery plan. Prepared by Arizona Game and Fish Department for U.S. Fish and Wildlife Service, Albuquerque, New Mexico, 83 pp.

Weedman, D.A. and K.L. Young. 1997. Status of the Gila topminnow and desert pupfish in Arizona. Nongame and Endangered Wildlife Program Technical Report 118. Arizona Game and Fish Department, Phoenix, Arizona.

APPENDICES

Appendix A: Covered Areas

Parcel No. 20:
Lots 1,2,3, and the Southwest Quarter and the North half of Lot 4; the North half of the Northeast Quarter; the Southwest Quarter of the Northeast Quarter; the Northwest Quarter of the Southeast Quarter; and the North half of the Southwest Quarter of the Southeast Quarter of Section 18, Township 7 South, Range 19 East of the Gila and Salt River Base and Meridian, Graham County Arizona.

EXCEPT all the coal and other minerals as reserved in Patent from United States of America.

Parcel No. 21:
The West Half of Lots 1 and 2, Section 19, Township 7 South, Range 19 East of the Gila and Salt River Base and Meridian, Graham County Arizona.

EXCEPT all the coal and other minerals as reserved in Patent from United States of America.

Parcel No. 25:
The East half and the Southwest quarter of Section 13. Township 7 South, Range 18 East, Gila and Salt River Base and Meridian, Pinal County, Arizona.

EXCEPTING THEREFROM all coal, oil, gas and other mineral deposits as reserved in Patent from United States of America.

Parcel No. 26:
The Northwest quarter of Section 14, Township 7 South, Range 18 East, Gila and Salt River Base and Meridian, Pinal County, Arizona.

EXCEPTING THEREFROM all coal, oil, gas and other mineral deposits as reserved in Patent from United States of America.

Parcel No. 27:
The South half of the Southeast quarter and the Southwest quarter of Section 23, Township 7 South, Range 18 East, Gila and Salt River Base and Meridian, Pinal County, Arizona.

EXCEPTING THEREFROM all coal, oil, gas and other mineral deposits as reserved in Patent from United States of America.

Parcel No 28:
The West half of the Northwest quarter of Section 25, Township 7 South, Range 18 East, Gila and Salt River Base and Meridian, Pinal County, Arizona.

EXCEPTING THEREFROM all coal, oil, gas and other mineral deposits as reserved in Patent from United States of America.

Parcel No. 29:
The North half of Section 26, Township 7 South, Range 18 East, Gila and Salt River Base and Meridian, Pinal County, Arizona.

EXCEPTING THEREFROM all coal, oil, gas and other mineral deposits as reserved in Patent from United States of America.

Parcel No. 31:
Lots 1, 2, 3, 4, and 5; the North half of the Northeast quarter and the Southeast quarter of the Northeast quarter; and the Northwest quarter of Section 15, Township 7 South, Range 18 East, Gila and Salt River Base and Meridian, Pinal County, Arizona.

EXCEPT any part lying within the boundaries of Louisville and Grand Duke Patented Mining Claims, as revealed by Mineral Survey No. 3313;

EXCEPTING AND RESERVING all the coal and other minerals as reserved in Patent from United States of America.

Appendix B. Map from BLM proposed reintroduction. TNC proposed reestablishment sites are numbers 2, 3, 4, and 5.